



THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: VAZQUEZ DEL MERCADO, Luis Francisco; SILVA-GALVAN, Luis David

SERIAL NO.:

FILED: Herewith

TITLE: SILVER-BARIUM LEAD ALLOY FOR LEAD-ACID BATTERY GRIDS

PRELIMINARY AMENDMENT

Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

In conjunction with the filing of the present application, and prior to an initial Official Action on this matter, please amend the above-identified application as follows:

IN THE SPECIFICATION

On pages 1-2, the paragraph beginning with "Great attention" and ending with "electrical contact.", please substitute as follows:

Great attention over the years has been given to the type of alloys used for manufacturing positive and negative grids. The selection of appropriate levels of elements for the battery grids involves considerations of grid-production capability, economic feasibility, and the metallurgical and electrochemical properties of the resulting alloys. Lead alloys must provide such properties as stiffness, strength, grain refinement, hardness, corrosion resistance, processability and conductivity. From several years of experience all around the world, it is well known that the ultimate life of a lead-acid battery is largely determined by the positive grids. According to Taylor et al (U.S. Patent 6,117,594), several factors contribute to making the positive grid the life limiting component of the battery: 1) highly oxidizing potential created by the presence of the positive active material and sulfuric acid, 2) high temperature accelerating the grid oxidation due to the battery being enclosed in a confined space in close proximity to the ICE engine, 3) relatively poor conductivity of the active material placing most of the current carrying burden on the Pb grid member, and 4) relatively poor match of the crystal structure of the active material compared to the Pb grid to which it must be in electrical contact.